

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Serial No. Not Yet Known
Filed: February 25, 2002
Continuation of: Serial No. 09/443,793
Inventor: David E. Albrecht
Title: FLANGE PLATES FOR FLUID PORT INTERFACES
File No.: 505-05

PRELIMINARY AMENDMENT

Hon. Commissioner of Patents & Trademarks
Washington, DC 20231

Dear Sir:

Applicant submits this Preliminary Amendment together with the filing of this continuation application. Please amend the above-identified application as follows.

Please cancel Claims 1-22, without prejudice, and insert the claims shown on the attached sheets.

Attached are:

- 1) A page containing the new paragraph to be added to the specification, providing a cross-reference to the prior application;
- 2) A set of new claims; and
- 3) Remarks explaining the new claims.

Please enter this Preliminary Amendment before calculating the filing fee.

Respectfully submitted,

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Continuation of Serial No. 09/443,793

New Paragraph of Specification

On page 1, after the title of the invention, please insert the following:

CROSS-REFERENCE TO PRIOR APPLICATION

This is a continuation of U.S. Patent Application Serial No. 09/443,793, filed November 18, 1999, entitled FLANGE PLATES FOR FLUID PORT INTERFACES.

Clean Version of New Claims

23. (New) Apparatus for providing a fluid seal between two port faces, comprising:

a one-piece plate, the plate having a fluid port opening and a plurality of bolt holes, the fluid port opening having a boundary,

a one-piece annular seal disposed within the boundary of the opening, and

a support ring disposed within the annular seal, wherein the support ring defines an interior region permitting fluid connection between port faces.

24. (New) The apparatus of Claim 23, wherein the annular seal comprises a flexible O-ring, and wherein the support ring comprises a metal ring.

25. (New) The apparatus of Claim 23, wherein the support ring has an outer boundary which faces an inner border of the annular seal, and wherein the support ring is chamfered on said outer boundary.

26. (New) The apparatus of Claim 25, wherein the support ring has two chamfers, both chamfers making an angle of about 45° with an axis of the support ring.

27. (New) The apparatus of Claim 25, wherein there are four bolt holes, disposed symmetrically around the fluid port opening.

28. (New) Apparatus for blocking fluid flow in a conduit, comprising:

a one-piece plate, the plate having a domed portion and a plurality of bolt holes,

the domed portion defining a surface which is convex in a direction opposite the direction of fluid flow in a conduit to be blocked,

wherein the domed portion is substantially rigid, non-rupturable and non-perforated.

29. (New) The apparatus of Claim 28, wherein there are four bolt holes disposed symmetrically around the domed portion.

30. (New) The apparatus of Claim 28, wherein the domed portion extends across a generally circular region which matches a port to be blocked.

31. (New) The apparatus of Claim 28, wherein the domed portion transitions smoothly from a flat surface of the plate to an apex of the domed portion.

32. (New) Apparatus for providing a controlled flow of fluid from a first fluid component to a second fluid component, comprising:

a one-piece orifice plate, the orifice plate including a domed portion and a plurality of bolt holes,

the domed portion defining a surface which is convex in a direction of the first component,

wherein the domed portion includes an orifice.

33. (New) The apparatus of Claim 32, wherein there are four bolt holes disposed symmetrically around the domed portion.

34. (New) The apparatus of Claim 32, wherein the domed portion defines a central region, and wherein the orifice is located in the central region of the domed portion.

35. (New) The apparatus of Claim 32, wherein the domed portion transitions smoothly from a flat surface of the orifice plate to an apex of the domed portion.

36. (New) Apparatus for providing an interface between a fluid port and a fluid handling component, comprising:

a one-piece sealing plate, the sealing plate including a central bore, the sealing plate also including a plurality of bolt holes,

wherein the central bore transitions smoothly from a larger diameter portion to a smaller diameter portion, wherein substantially all of the central bore comprises a flow path for fluid,

wherein the sealing plate comprises a structural support for the fluid handling component.

37. (New) The apparatus of Claim 36, wherein there are four bolt holes disposed symmetrically around the central bore.

38. (New) The apparatus of Claim 36, wherein the fluid handling component has a component diameter, and wherein the diameter of the smaller diameter portion of the central bore of the sealing plate

generally equals the component diameter.

39. (New) The apparatus of Claim 36, wherein the fluid handling component includes at least one seal, and wherein the smaller diameter portion of the central bore is smaller than a diameter of said at least one seal.

40. (New) The apparatus of Claim 36, wherein the sealing plate includes at least one face seal.

REMARKS

This is a continuation of application Serial No. 09/443,793. Please enter this Preliminary Amendment before calculating the filing fee.

The pending claims are Claims 23-40. Claims 23-27 pertain to the embodiment of Figures 2A and 2B. Claims 28-31 pertain to the embodiment of Figures 6A and 6B. Claims 32-35 pertain to the embodiment of Figures 7A and 7B. And Claims 36-40 pertain to the embodiment of Figures 8A, 8B, 9A, and 9B.

This Preliminary Amendment adds no new matter to the original application. All of the limitations in the new pending claims were either specifically recited in claims of the parent case, or are features that are clearly described and/or illustrated in the original disclosure.

Applicant requests that the present application be examined as amended.